Analysing the Impact of Edutech initiatives on Educational Institutions in relation to Operational Performance

A Synopsis

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Introduction

AnalysingtheImpactofEdutechInitiativesoneducationalinstitutionsinrelation tooperationalperformance.

Education:

Theword'**Education**'hasbeenderivedfromthreeLatinwords**Educatum**,**Educere**&**Educare**wh ichmeans***totrain,toandtobringup***.Itisthepowerfultoolinthehandsofsocietytoreduceinequality andtopavethewayforsustainedeconomicgrowth.

Educationhasbeenakeycomponenttomeasuredevelopmentchangesovertimeandbetween countries.Featuresofaneducatedsocietyarehigherwages,socialmobility,usefullifeskills,improv eddisciplineandwillingnesstochange.

EducationSystembeforetheEmergenceofEdutechInitiatives:

BeforetheEmergenceofEdutechInitiatives,theEducationSystemoperatedprimarilyin'**Physic alClassroomsettings**',where,thestudentsattendedSchoolsorUniversities,engagingin'**face-to-faceinteractions'**withteachersandpeers.InTraditionalteachingmethods,suchas**Lectures**,**Grou pDiscussions**,andhands-onactivities,wereprevalent.

Inthissystem,studentsfollowedastructuredcurriculum,whichincludedvarioussubjectsandgr adelevels.Teachersplayeda'**CentralRole**'inimpartingknowledgeandfacilitatinglearning.Theyde liveredlessons,assessedstudents'progressthroughtestsandassignments,andprovidedindividua lizedsupportwhenneeded.

Extracurricularactivities,suchassports,arts,clubs,andfieldtrips,werealsoanessentialpartofth eeducationsystem.Theseactivitiespromotedsocialization,teamwork,creativity,andphysicalfitn ess.

Assessmentand**Evaluation**weretypicallyconductedthroughexams,quizzes,projects,andpre sentations.Gradeswereusedtomeasurestudents'academicperformanceanddeterminetheirad vancementtothenextlevel.

Thiseducationsystemreliedheavilyon**in-personinstruction**,**face-to-faceinteraction**,and**structuredphysicallearningenvironment**.

Furthermore,parentsorguardiansplayedavitalroleintheirchildren'seducation,supportingtheirlearningathomeandcollaboratingwithteachersandschooladministrators.

EducationalTechnology:

Educationaltechnologyisthestudyandethicalpracticeoffacilitatinglearningandimprovingperformancebycreating,rising,andmanagingappropriatethetechnologicalprocessandresources.

EdutechorEdtech(Educationaltechnology)isthecombineduseofcomputerhardware,softwareandeducationaltheoryandpracticetofacilitatelearning.Itoftenreferstotheindustryofcompaniesthatcreateeducationaltechnology.

Educationaltechnology,orEdutech,referstotheuseofdigitaltoolsandresourcestoenhanceteachingandlearninginvarioussettings.OneofthekeyrolesofanEdutechleaderistoprovideongoingprofessionaldevelopmentandsupportforteachersandotherstaffwhouseEdutechintheirwork.

Educationaltechnology(commonlyabbreviatedasEdutech,orEdtech)isthecombineduseofcomputerhardware,software,andeducationaltheoryandpracticetofacilitatelearning.Whenreferredtowithitsabbreviation,

Edutech,itoftenreferstotheindustryofcompaniesthatcreateeducationaltechnology.TheseInitiativesareprogramsthatfocusonstudent'spotentialtolearnandbesuccessful.

ThegovernmentofIndiahasalsotakenseveralinitiativesincluding-**PMe-Vidya**,**DISHA**,**e-Pathshaala**,**SWAYAM**,**SWAYAMPRABHA**,**NISHTHA**,**OnlineCoachingforCompetitiveExams**etc.Asanattemptexertedtolearnnewpedagogicalideas,theseinitiativesmakeuseofsometeachingaidstofacilitateandacceleratestudents'learning,enhancestudentliteracyandcreateapositiveandinclusivelearningenvironment.Here,thegovernmentalsectorservesasafacilitatorwhiletheprivatesectorassumesapivotalrole.

Here,majorinitiativesinvolvedProfessionaldevelopmentandsupportcantakevariousforms,suchasworkshops,webinars,coaching,mentoring,peerobservation,oronlinecommunities.Theco

ntentandformatofprofessionaldevelopmentandsupportshouldbealignedwiththeschool'svisio nandplan,aswellastheneedsandinterestsoftheparticipants.

EffectiveEdutechpracticesarethosethatenhancestudentengagement,learningoutcomes,an d21stcenturyskills,suchascreativity,collaboration,communication,andcriticalthinking.

GoogleForms,**Kahoot**,or**Socrative**aresomeEdutechtools,onecanusetoolssuchastoassessth elearningoutcomesandsatisfactionoftheparticipants.

Similarly,platformssuchas**Edmodo**,**MicrosoftTeams**or**Schoology**aresomeexamplesofEdute chtools,thatonecanalsousetocreateandmaintainonlinenetworksforsharingresources,ideas,an dbestpractices.

Edutechtoolscanbeusedtodesignanddeliver**student-centered**,**inquiry-based**,and**differentiatedinstruction**and**assessment.**AlsoEdutechtoolscanbeusedtoshowcase andcelebratetheachievementsandchallengesofstudentsoftheinstitutions.Edutechtoolssuchas **Seesaw**,**Flipgrid**,or**AdobeSpark**canbeusedtocreateandsharedigitalportfolios,stories,orpresen tations.

EducationalInitiatives*believesinmakingadifferenceineducationthroughpersonalisedlearnin gandensuringthat*studentslearnwithunderstanding,while*ensuresthatstudentscontinuetolearn ,nomattertheexternalsituations*.

EmergenceofEdutechInitiatives:

*DuetomultiplewavesoftheCOVID-19pandemic,theIndiangovernmenthasimposedoneofthelongestschoolclosuresglobally.*Resulti ngthis,theeducationsystemunderwentsignificantchangestoadapttothechallengesposedbythe virus.Thesechangesvariedacrosscountriesandeducationalinstitutionsbutgenerallyinvolvedash iftfromin-persontoʻRemoteʼorʻOnlinelearningʼ.

EdutechInitiativesorEducationaltechnologyInitiativeshasanincreasingimpactonhighereduc ationandshiftedthewayofteachingandlearninginafundamentalway.Toensurethecontinuityofe ducation,schoolsanduniversitiesquicklytransitionedtovirtualplatformsandremotelearningmet hods.Edutechoffersstudentsaccesstocontentattheirownspeedandclassesthatarespecificallyca

teredtotheirneeds.

DuetoEdutechInitiatives,highereducationtoshiftfromtraditionallearningtodigitallearningandthismadeabigchangeintheeducationsystemandthewayeducationisbeingdeliveredtostudentsworldwide.Edutechoffersstudentsaccesstocontentattheirownspeedandclassesthatarespecificallycateredtotheirneeds.

EdutechInitiativesfacilitatepeopleofallagescanlearnattheirownpace,withoutrestraints,andwithoutsacrificingtheirotherobligations.

WiththeaidofEdutech,educatorscanreachasizablenumberofpersons.Thereisnolongerarequirementforaphysicallocationwhereinstructorsandstudentscanassembleforclasssessions.

Technologyhasalsomadeiteasierforteacherstocollaborateandshareresourceswiththeircolleagues.Throughtheuseofonlineplatformsandsocialmedia,teacherscanconnectwitheachotherandsharelessonplans,activities,andotherteachingmaterials.Thiscollaborationhelpsteachersstayup-to-dateonthelatestteachingtechniquesandcanalsosavethemtimeandeffortwhenitcomestocreatingtheirownlessonplans.Itresultedinimprovingthetaskofteacherbyusingdifferentgadgetsandtoimprovethequalityofinstructions.

Remotelearninginvolvedusingvideoconferencingtools,learningmanagementsystems,onlineresources,anddigitalplatformstodeliverlessonsandfacilitatecommunicationbetweenteachersandstudents.Itallowedstudentstoparticipateinclassesfromtheirhomes,usingcomputers,tablets,orsmartphones.Teachersconductedvirtuallectures,provideddigitallearningmaterials,andassignedonlineassignmentsorprojects.Communicationandcollaborationbetweenstudentswerefacilitatedthroughvideoconferences,onlinediscussionforums,andgroupprojects.

Technologyhasalsomadeitpossibleforstudentstolearnfromawiderrangeofsources.Withtheinternet,studentscannowaccesslectures,videos,andothereducationalmaterialsfromsomeoftheworld’stopexpertsandinstitutions.Finally,technologyhasalsomadeiteasierforstudentswithdisabilitiestoparticipateintheclassroom.

Sincemostprimaryschoolstudentshavenotgonetoschoolinmorethanayear,schoolshavebeentryingtoreplacein-

personclasseswith'**Onlinelearning**'.Teachersandschoolshavebeentryingvariouswaystoreachouttotheirstudents,using**WhatsAppgroups**,**GroupTutoring**,**Zoom**and**Skype**.*Theseschoolclosureshaverevealedtheinequitiesbetween Urban and Rural populations, as well as between girls and boys, in adapting to online learning tools.*

BenefitsofAdoptingEdutechInitiatives:

Educationaltechnologyhasaprogressivelymajoreffectonalmostallareasofactivitiesandshiftedsocietytoday.DuetoadoptingtheEdtechInitiatives,theteachingandlearningatSchools,Institutionsanduniversitiesarechanginginaradicalway.Usingdigitaldevicesintheclass,teachersareabletocreateaparticularlevelofeaseandcomfort.

Deviceslike'**Smartboards**'and'**Projectors'**connectwirelesslytocomputersorlaptops,lectures canrecord,andstudentshaveaccesstothelecturesanytime,studentstakenotesonalaptoprathert hanhandwritingnotesandtheytendtousecomputersintheclassroomandthisisamassiveshiftined ucation.

Alleducationalinstitutionstriedtoshiftfrom'**TraditionalLearningMethodology**'to'**OnlineLearningMethodology**'.Educationalinstitutionshadtousedifferentdigitalplatformswithdifferentcapabilitiesandstrategiestofacilitatelearningwhichmadedigitaltechnologyaprimarymediumofeducation.

Digitalizationchangedeverythingineducationandthisimpactsontheteachingandlearningstyles.Lecturersandstudentsalreadyadaptedthemselvestothenewwayofteachingandlearning.***However,theshiftto'RemoteLearning'alsopresentedsomechallenges,whichareasfollows:***

- Notallstudentshadaccesstoreliableinternetconnectionsorsuitabledevices,creatingdisparitiesineducationalopportunities.Toaddressthisissue,educationalinstitutionsandgovernmentsworkedtoprovidedevicesandinternetaccesstostudentsinneed.
- Additionally,theabsenceofin-personinteractionsposedchallengesintermsofstudentengagement,socialization,andsupport.Teachersandschoolcounsellorsmadeeffortstomaintainregularcommunicationwithstudentsandprovideemotionalsupportthroughvirtualchannels.

- Assessmentandevaluationmethodswerealsoadjusted.Traditionalexamsandassessmentswerereplacedwithonlinequizzes,assignments,andprojects.Educatorsexploredalternativewaystoassessstudents'progressandprovidedfeedbackremotely.
- Extracurricularactivities,suchassportsandclubs,wereoftenlimitedorconductedvirtuallyduringthepandemic.Fieldtripsandotherhands-onlearningexperienceswerealsoaffected,withvirtualalternativessometimesbeingimplemented.
- EdutechInitiativesshifted‘TraditionalEducationdeliveringsystemtoRemoteorOnlinelearningmethods,utilizingtechnologytodeliverlessonsandfacilitatecommunication.***Italsoposeschallengessuchas AccesstoTechnologyandMaintainingStudentEngagementwereaddressedthroughvariousmeans,whileassessmentmethodswereadaptedtothevirtualenvironment***.
- Here,theimportanceofparentalinvolvementinsupportingtheirchildren'seducationathomealsoincreased.Parentsplayedamoreactiveroleinmonitoringtheirchildren'sprogress,assistingwithtechnology,andensuringaconducivelearningenvironment.

EdutechInitiativestransformedtraditionalteachingmethodsandcontributedtotheoperationalefficiencyofeducationalinstitutions.***Operationalperformanceisacriticalaspectofrunninganybusiness.Itreferstotheeffectivenessandefficiencyofacompany’sday-to-dayoperationstoachieveitsgoalsandobjectives.***

Edutechinitiativeshavefundamentallyreshapedtraditionalteachingmethodsbyincorporatingtechnologyintoeducation.Theresultingimprovementsinpersonalization,accessibility,collaboration,assessment,andadministrativeefficiencyhaveledtoenhancedoperationalperformanceandamoreadaptive,student-centriceducationalenvironment.

- **CostConcerns:**Edutechimplementationofteninvolvescostsrelatedtosoftwarelicensing,hardwareupgrades,training,andongoingsupport.Budgetconstraintscanhinderadoption.
- **PrivacyandSecurityConcerns:**Educationalinstitutionshandlesensitivestudentdata.IntegratingEdutechsolutionsrequiresaddressingconcernsaboutdatasecurityandprivacy.

- **ResistancetoChange:**Educatorsandstaffmayresistadoptingnewtechnologiesduetofearoftheunknownoralackoffamiliarity.
- **LackofTraining:**Educatorsandstaffmightnotbeadequatelytrainedtoleveragethefullpotentialof Edutechtools,leadingtounderutilizationandfrustration.
- **InfrastructureLimitations:**Insufficientinternetconnectivity,outdatedhardware,andinadequatetechnicalsupportcanimpedethesuccessfulintegrationofEdutechsolutions.
- **IntegrationChallenges:**IntegratingEdutechsolutionswithexistingsystemsandplatformscanbecomplexandmayresultintechnicalcompatibilityissues.
- **SustainabilityandMaintenance:**EnsuringthecontinuedsuccessofEdutechinitiativesrequiresongoingmaintenance,updates,andsupport.Neglectingtheseaspectscanleadtosystemsbecomingobsolete.
- **ContentQuality:**Developinghigh-qualitydigitalcontentandresourcesthatalignwithcurriculargoalscanbetime-consumingandchallenging.Poorcontentqualitycandiminishtheeffectivenessofthetools.
- **EvaluationandAssessment:**MeasuringtheimpactandeffectivenessofEdutechsolutionscanbecomplex,andinstitutionsmaystruggletodeterminethereturnoninvestment.
- **DigitalDivide:**Notallstudentshaveequalaccesstotechnologyoutsideoftheeducationalenvironment,leadingtodisparitiesinlearningexperiences.
- **Learninglossandacademicsetbacks:**Extendedperiodsofremotelearninganddisruptionstoin-personinstructionhaveresultedinsignificantlearninglossformanystudents.Thelackofface-to-faceinteractions,reducedsupportsystems,andvaryinglevelsofaccesstoresourcesandtechnologyhavecontributedtoacademicsetbacks,particularlyformarginalizedanddisadvantagedstudents.
- **Wideningeducationalinequities:**Thepandemichasexacerbatedexistingeducationalinequities.Studentsfromlower-incomehouseholds,ruralareas,ormarginalizedcommunitieshavefacedgreaterchallenge

sinaccessingremotelearningduetolimitedinternetconnectivity,lackofsuitabledevices,orinadequatelearningenvironments.Thishaswidenedtheachievementgapanddeepenedinequalitiesineducationaloutcomes.

- **Socialandemotionalimpact:**Theabsenceofin-personinteractionsandsocializationopportunitieshastakenatollonstudents'socialandemotionalwell-being.Manystudentshaveexperiencedfeelingsofisolation,loneliness,andanxiety.Thelackofsupportfrompeersandeducators,combinedwiththestressofthepandemic,hasaffectedmentalhealthandoverallemotionaldevelopment.

- **Reducedpracticalandhands-onlearningexperiences:**Certainsubjects,suchasscience,arts,andphysicaleducation,heavilyrelyonpractical,hands-onlearningexperiences.Thelimitationsimposedbythepandemic,suchasrestrictionsonlaboratorywork,artstudios,orphysicalactivities,havelimitedstudents'opportunitiesforhands-onlearningandskilldevelopmentinthesеareas.

- **Lackofstudentengagementandmotivation:**Remotelearningcanpresentchallengesinmaintainingstudentengagementandmotivation.Theshifttoonlineplatformsmayleadtoincreaseddistractions,decreasedparticipation,anddifficultiesinholdingstudents'attentionduringvirtuallessons.Thelackofdirectinteractionwithteachersandpeerscanalsoimpactstudentmotivationandactiveparticipation.

- **Increasedworkloadandburnout:**Thetransitiontoremotelearninghasplacedadditionalburdensonteachers,whohavehadtoadapttheirteachingmethodsanddevelopnewonlineinstructionalmaterials.Theincreasedworkload,alongwiththeneedforconstantadaptationandtechnologicaltroubleshooting,hasledtoteacherburnoutanddecreasedjobsatisfaction.

- **Limitedaccesstosupportservices:**Studentswithspecialneedsorthoserequiringadditionalsupportservices,suchasspecialeducation,counselling,ortherapy,mayfacechallengesaccessingtheseservicesremotely.Thelackofin-

personsupportandspecializedinterventionscannegativelyimpacttheireducationalprogressandwell-being.

- **Disruptionofextracurricularactivities:**Thepandemichasdisruptedextracurricularactivities,suchassports,clubs,andculturalevents.Theseactivitiesprovideopportunitiesforskilldevelopment,socialization,andpersonalgrowth.Theabsenceoftheseexperienceshasdeprivedstudentsofimportantnon-academicaspectsoftheireducation.

REVIEWOFLITERATURE

- **MitaliSharad Gupta(January 2023)** fromDR. AMBEDKAR INSTITUTE OF MANAGMENT STUDIES AND RESEARCH A Study of Impact of EDtech Companies on Education With Special Reference to Byjuce and Vedentu.

  Publication at: https://www.researchgate.net/publication/367341014

  College and high school education are no longer dependable. Due to the pandemic, millions of students have begun learning online and searching for top educational websites and apps in the last six months. It is clear that educational websites play a critical role in the development of the nation's young minds, and thus the nation's future. If you want to make a difference, Traditional education is insufficient. As a result, E-Learning, or web-based learning systems, will be the future of education in the coming years. It is a boon to society because it is accessible to all segments of society. The expansion of the E-Learning system can help a country like India achieve a higher level of economic development, education, and literacy.

  Not only will online education benefit students, teachers, and professionals, but it will also provide a diverse opportunity for corporations to expand their business opportunities. In the modern era, EdTech has taken over to transform the traditional classroom setup through the use of new approaches to learning and teaching. As a result, EdTechstartups are proactively guiding the future of education.

- **Nikolaos Tzenios(January 2020) from Charisma University.** Examining the Impact of EdTech Integration on Academic Performance Using Random Forest Regression, Publication at: https://www.researchgate.net/publication/367163451

  EdTech, short for "educational technology," offers the ability to boost students' grades by individualizing lessons and giving instantaneous feedback on their progress.

  Integration of EdTech in schools seems to be essential to boost academic performance levels.

  Integration of EdTech in schools is determined by the factors like Student involvement, teacher-student ratio, family income and a healthy lifestyle.

  While technology may provide numerous advantages to education, it is crucial to

recognize that it must be utilized in combination with a well-designed curriculum and competent pedagogy in order to be genuinely successful.

Benefits of Edtech include Access to educational resources from all over the world, and ability to collaborate and communicate with other students and teachers.

It can help to personalize education and make it more interactive and engaging, as well as providing opportunities for collaboration and connection.

Academic performance is an important aspect of a student's educational journey. It can open up a wide range of opportunities for students in the future, provide a sense of accomplishment, and contribute to a student's mental and emotional well-being.

Students in outlying locations or with busy schedules may still get the education they need with the help of EdTech's online and remote learning options.

With the use of interactive learning systems, students may be inspired by observing their progress and be rewarded for their successes.

Despite the many benefits of educational technology, there are also limitations to consider. One major limitation is that not all students have equal access to technology. For example, students from low-income families may not have access to the necessary devices or internet connectivity to fully participate in online or blended learning environments. Additionally, there may be disparities in the quality of technology infrastructure within schools, which can impact students' access to and use of educational technology.

EdTech has a limitation that it is difficult to effectively integrate technology into instruction. For example, for educators who may not have received adequate training on how to use educational technology effectively, find it difficult to adapt and not feel comfortable using technology in the classroom.

Technology can be a distraction for students and it may not be used in an appropriate way that aligns with student's learning needs.

Also not all content may be available online or in digital format, resulting the limiting the accessibility and availability of certain educational materials for students.

- **Vivek Hariharan (July 2023);EduTech:** New Technologies in the Education Sector.Publication at:https://www.leadsquared.com/industries/edtech/edutech-educational-technology/

Educational institutions are investing in software technologies to make their admission process more efficient. It also helps them identify the best-fit candidates and reduce the college drop-out rates. One such solution widely in use today is Education CRM.Edupreneurs have seen a steep rise towards innovation in education. Innovative learning solutions have brought about a change from push-learning to self-directed pull-learning.

Unlike the traditional classroom and blackboard learning, interactive teaching helps grab the attention of students better. But, the biggest challenge that content developers face is delivering engaging curriculums.

New-age EdTechs are leveraging a learner-centric approach with more emphasis on the student experience.

19% of learners leverage curation tools for self-directed learning. Furthermore, digitalization is aiding organizations to switch to a flipped-classroom structure and one needs to equip themselves to provide that experience to mentors and learners.

A Learning management system (LMS), provides complete autonomy when it comes to defining a learning path for the learner. It offers curated content at the right time. An LMS gives access to the entire course database – overwhelming the learners. But think of an LXP as a roadmap of a learner as every learner has their own pace and preference of learning. An LXP provides flexibility in choosing the curriculum flow rather than following a predefined course curriculum.

The use of virtual reality could make traditional learning more interactive and replace textbooks. Furthermore, for subjects like Biology, Physics, Geography, History, and more, an online 3-D learning mode can help students understand the concepts better.

Machine learning or ML can predict and analyze student intent with great accuracy. Advanced analytics helps draw insight into how students are interacting with the content and various learning tools. Additionally, this allows organizations to draw actionable data on student performance and use learning analytics to intervene wherever necessary.

IoT (Internet of Things) can help build a connected classroom. IoT devices give students better access to learning materials and communication channels. They also give teachers the ability to measure student learning progress in real-time.

EduTechs are innovating around Science, Technology, Engineering, Arts (a recent addition), and Maths. The goal is to educate students by solving real-world problems through creative learning methods.

Students are more tech-savvy and adapt easily. But teachers are struggling to use tools like Zoom, Google Classroom, and others. So, a middle ground has to be established and simpler tools have to be created. Hence, *m*ore institutions have to open up to a blended form of learning. There will

be opportunities in B2B. This is just the beginning of how tech can help improve teaching and learning.

- **(July 2021) Reimagining learning with technology.** Building sustainable EdTech businesses in India. Published at : https://www.pwc.in/assets/pdfs/industries/education/reimagining-the-role-of-technology-in-education.pdf

  This report assesses the challenges faced by EdTech in India and recommendations that can drive industry growth.

  The future of learning may increasingly rely less on physical infrastructure and more on digitisation, thereby leading to technology driving affordability and equal access to quality education. Technology in education is also expected to gradually take the focus away from the grade-oriented input-output education system and build an independent system in conjunction with the traditional methods of learning, thus expanding the scope of opportunities for students. As the Indian EdTech space continues to evolve, we expect firms to play a key role towards the country's development by resolving the challenges in the traditional Indian education system. Over the next decade, the widespread adoption of technology solutions will ensure that aspiring learners are provided with an equal learning opportunity and able to create a better future for themselves.

- **(LexandruOnojescu& Maria Purcariu) Impact of ChatGPT on Education and EdTech.**Published at: https://www.evalueserve.com/blog/impact-of-chatgpt-on-education-and-edtech/

  Artificial Intelligence (AI) has gained steam in recent years and is playing an increasingly prominent role in almost every industry – including education.

  Similar to Google, Wikipedia, and the calculator, ChatGPT will continue to influence how educators and students interact with knowledge and technology. This will impact the education ecosystem.

  ChatGPT's most important use is its potential as a writing assistant. It allows students and teachers to generate content ideas that inspire them to write essays on any topic. Moreover, they can help create different drafts of the same essay and suggest improvement areas regarding grammar, clarity, or conciseness. Thus, the tool allows users to overcome writer's block and generate new perspectives on their chosen topic. The implications are enormous in business and ethics. Using ChatGPT, content writers might rethink paying huge subscriptions for AI copywriting tools such as Jasper or Copy.ai. AI. Writing assistants such as Grammarly or Quillbox might also face competition.

Leading research and analytics firm provide insights into global trends affecting Education and EdTech. Expert researchers work closely with our clients to understand their unique needs and tailor their research and analysis to meet those needs.

- **(JANUARY 2017) Reimagining the Role of Technology in Education:** U.S. DEPARTMENT OF EDUCATION. Published at : https://tech.ed.gov/files/2017/01/NETP17.pdf

  Technology can be a powerful tool for transforming learning. It can help affirm and advance relationships between educators and students, reinvent our approaches to learning and collaboration, shrink long-standing equity and accessibility gaps, and adapt learning experiences to meet the needs of all learners.

  When carefully designed and thoughtfully applied, technology can accelerate, amplify, and expand the impact of effective teaching practices. However, to be transformative, educators need to have the knowledge and skills to take full advantage of technology-rich learning environments.

  In a blended learning environment, learning occurs online and in person augmenting and supporting teacher practice. Blended learning often allows students to have some control over time, place, path, or pace of learning. In many blended learning models, students spend some of their face-to-face time with the teacher in a large group, some face-to-face time with a teacher or tutor in a small group, and some time learning with and from peers. Blended learning often benefits from a reconfiguration of the physical learning space to facilitate learning activities, providing a variety of technology-enabled learning zones optimized for collaboration, informal learning, and individual-focused study.

- **(Tarkar, 2020)** The paper has analyzed that teaching has shifted from physical presence to an online education system. Due to Covid-19, there is a transformation in teaching methodology. Education institutions are finding ways to solve issues, which have arisen due to Covid-19.
- **(Toquero, 2020)** The paper reveals that education is affected worldwide due to the Covid-19 pandemic. There has been a close down in schools and social distancing has been enforced everywhere. Education institutions in the Philippines are facing challenges in planning, implementation, and assessment. The pandemic has opened opportunities to upgrade education mode.
- **(Jena, July 2020)** The paper reveals that Covid-19 has a severe impact on the education sector of India. It has created many challenges and opportunities. The Government of

India is trying its best to cope up with the present situation and resolve the problems. All the educational institutions should strengthen their knowledge and information technology infrastructure to face Covid-19 situations.

- **(Monaghan, Michael, 2011)** The use of educational technology is shifting toward fee-based enterprise-level applications and free, open-source collaboration and presentation tools. Educational technology is enabling teachers to restructure classroom time for purposes other than the transmission of factual information, and to take an evidence-based approach to instructional innovation and reform**.**
- **(Palliyalil, Sruthi, 2020)** The app is interactive, comfortable, and effective, according to the majority of respondents. However, the study also discovered that some users are unable to effectively use this App for personalised learning because they are not regular app subscribers. For the average Indian student, a regular subscription is prohibitively expensive. Byju's App is working hard to change the educational landscape and will undoubtedly reach a large number of people if it can be made more affordable.
- **(Sigma Sathyan, 2021)** During the COVID-19 pandemic, Byju's app was a leading online education brand, with 85 percent of parents subscribing to this mobile app for their child's education. As a result, the coronavirus crisis aided Byju's app's rise to the top of India's online education providers.
- **(Ashwani Kumar Kansal, 2021)** When the Edutech initiatives emerged, there has been a significant increase in the number of online platforms. Existing educational institution assets have effectively converted traditional education into new-age online education with the help of virtual classes and other key online tools in this ever-changing scholastic setting. The most popular online platforms for conducting classes are Microsoft Teams, Zoom, Google Meet, and WebEx, and whiteboard software tools and learning apps such as Vedantu, Byju's, and Whitehat Junior have been major market players in the education system over the pandemic year.
- **(Muzyleva, Yazykova, &Penkov, 2019)** The aim of this review is to deliver the theoretical frameworks of this thesis that revolve around the concept of digitalization and how digitalization processes have been affected by the Covid-19 pandemic in a higher education institution or university setting. The most significant process in higher education is the educational process which involves the collaboration of two areas which

are the “society of teachers” and the “community of students”

- **(Webb, McQuaid& Webster, 2021)Digitalization in the context of education :**Digitalization is going to make a great shift in the economy and society of any environment it is applied to and will affect all areas of individual activities in both developed and developing countries. Digitalization can simply be explained as the transformation of the skills needed by the world’s working population and the young in order to successfully engage in a globalised modern economy.
- **(Chen, Head, Strijdom& Stone, 2022) Digitalization for Students’ Learning :**This paper reveals that Edutech solutions have played a pivotal role in enabling remote and blended learning models, allowing students to access educational content and engage in lessons from anywhere. This flexibility has been particularly crucial during times of disruptions, such as the COVID-19 pandemic
- **(De Houwer, Barnes-Holmes & Moors, 2013) Learning:**This paper reveals that Edutech tools and platforms enable educators to tailor content and learning experiences to individual students' needs, learning styles, and paces. This personalized approach enhances engagement, comprehension, and retention, ultimately leading to improved learning outcomes.

Objectives

1. ToanalyzewhethertheEdutechinitiativesarereallyabletotransformtraditionalteaching methodsandabletocontributetotheoperationalefficiencyofeducationalinstitutions.

2. Toanalyzewhatchallengesdoeducationalinstitutionscommonlyfacewhenimplementing Edutechsolutions,andhowcanthesechallengesbemitigatedtoensurepositiveimpactson operationalperformance?

3. ToanalyzewhetherEdutechtoolshavebeensuccessfuleffectivelyoptimizedoperationalp rocesses,alsoabletoimprovedresourceutilizationandcostsavingsforeducationalinstituti ons.

4. ToanalyzeinwhatwaysEdutechsolutionsstreamlinedadministrativeprocesseswithinedu cationalinstitutions,suchasenrolment,scheduling,andresourceallocation?

5. Toanalyzeinhowdoedutechinitiativescontributetoenhancingcommunicationandcollab orationamongvariousstakeholderswithineducationalinstitutions,andwhateffectsdoest hishaveonoperationalefficiency?

6. Toanalyzethekeyperformanceindicators(KPIs)foraneducationalinstitutionwhileevaluat ingthesuccessofedutechinitiativesbeingimplementedintermsofoperationalperforman ce?

ResearchMethodology

ThisstudywillbeaQuantitativeSampleSurvey-basedresearch.

ThesamplewillcompriseofTeachers,Students,Parentsofthestudentsandpeoplerelatedto EducationIndustry.

Iwilltrytogetmyquestionnairefilledwithmentionedtargetpeopleatvariouslevellike Primary,SecondaryandGraduateandPostGraduatelevel.

IwillalsotrytogetsomedatafromSecondarySources,withthehelpofPublishedJournals,Websites.

Iwillapplyvariousstatisticaltoolsonthedatathatwillbecollected,toexaminetherelationshipbetweenvariablesandtotestthehypothesis.

TargetPopulation:

IwillcollectdatafromtheSchoolsandCollegeofGhaziabad(U.P.)

TherespondentswillcompriseofTeachers,Students,Parentsofthestudentsandpeoplerelatedto EducationIndustry.

SampleSize&Technique:

AsamplingmethodistheidentificationofthePreciseMechanismbywhichtheentities ofthesamplewillbechosen.

Inthisstudy,IwillapplyRandomProbabilitySamplingapproachfortheconvenience ofdatacollectionandrespondentswill bepickedfromvariousdescriptivecharacteristics.

Samplesizeforthis researchworkwillbe300respondents (approximately)includingallcategoriesmentionedabove.Also Iwilltrycollectsampleasmuchaswillbepossible.

IwilluseappropriateStatisticalToolsinthisresearchaccordingtotheneedofthestudyinfuture.

SOURCEOFDATA

Datawill becollectedthroughboth PrimaryandSecondarydatasources:

PrimaryData: Primarydatawillbecollectedwiththehelpof SampleSurveymethod– usingmytwo Questionnaire forms. Each for different respondent group mentioned above.

Thecollectionofdatabyusingthisapproachwillbelesstimeconsumingasbeingresearcher,I willsharethequestionnairethroughemail also.It is important to note that theuseofthequestionnairemethodwillincreasethereliabilityandvalidityoftheoutcomesoftheresearch.

SecondaryData:I will collect SecondarydatawiththehelpofPublishedJournals,andWebsites.

QUESTIONNAIRE
(For Teachers)

Date:_____

DearSir/Madam,

IamworkingonaResearchthesistitled"***AnalysingtheImpactofEdutechinitiativesoneducational institutionsinrelationtooperationalperformance.***"from**JayotiVidyapeethWomen'sUniversity,Jaipur**.

Iwillbegratefultoyou,ifyoucanspareyourvaluabletimeandindicateyourresponses.

MythesisfortheDoctoraldegreewillbebasedonthevaluableinformationprovidedbyyou.

Yourco-operationinthisregardsissolicited.

Theinformationthatyouwillprovideme,beusedpurelyforacademicresearchpurposeandwillbeptconfidential.

Ifyoudesire,Iwillprovideacopyofyourresponse,foryourreference.

Thankingyouinanticipation.

PersonalProfile

1.Name :MR/MRS/MISS._____

2.Address :_____

_____

_____

3.Age :_____

4.Gender :_____(**Male/Female**)

5.EducationalQualification :_____(**UnderGraduate/Graduate/PostGraduate**)

6.Occupation :_____(**Employed/Self-Employed**)

7.Emailid :_____

8.Howdoyourelatedto

Education :_____

SECTION – A

Instructions :

- Thisstudyisforresearchpurposeonly.
- Pleasereplybyputtingatick(✓)intheboxcorrespondingtoyouranswer.
- Thequestionnaireshouldtakeyouonlyafewminutes.
- The results will be treated in strict confidence.

1. How familiar are you with the term “Edutech”?
   (a) Veryfamiliar
   (b) Somewhatfamiliar
   (c) Notfamiliaratall
2. HaveyoureducationalinstitutionimplementedanyEdutechinitiativesinthepastyear?
   (a) Yes,multipleinitiatives
   (b) Yes,oneinitiative
   (c) No,noneatthemoment
3. WhatistheprimarygoalofimplementingEdutechinitiativesinyourinstitution?
   (a) Enhancingstudentengagementandinteraction
   (b) Streamliningadministrativetasks
   (c) Improvingteachingeffectiveness
   (d) Other(pleasespecify):……
4. HowdoyouperceivetheimpactofEdutechonstudentlearningoutcomes?
   (a) Verypositive
   (b) Positive
   (c) Neutral
   (d) Negative
   (e) Verynegative
5. Whatchallenges,ifany,haveyouencounteredinimplementingEdutechinitiatives?
   (a) Lackofpropertrainingforstaff
   (b) Technicalissuesandglitches
   (c) Resistancefromfacultymembers

(d) Insufficientbudgetallocation

(e) Nochallengesencountered

6. InwhatwaysdoyouthinkEdutechinitiativeshaveinfluencedoperationalefficiency?

(a) Improvedcommunicationbetweenstakeholders

(b) Streamlinedstudentenrolmentandregistrationprocesses

(c) Fastergradingandassessmentprocedures

(d) Reducedadministrativeworkload

(e) Nonoticeableimpact

7. HowwellhasyourinstitutionadaptedtotheintegrationofEdutechsolutions?

(a) Verywell

(b) Well

(c) Somewhat

(d) Poorly

(e) Notatall

8. WhichofthefollowingEdutechtoolsorplatformsdoesyourinstitutionuse?(Selectallthatappl y)

(a) LearningManagementSystems(LMS)

(b) Videoconferencingtools

(c) Onlineassessmentplatforms

(d) VirtualReality(VR)simulations

(e) ArtificialIntelligence(AI)forpersonalizedlearning

(f) Other(pleasespecify):……

9. HowdoyouassesstheoverallimpactofEdutechinitiativesonyourinstitutions'operationalper formance?

(a) Significantlyimproved

(b) Moderatelyimproved

(c) Slightlyimproved

(d) Nonoticeableimprovement

(e) Declined

10. Whatfuturechangesorexpansionswouldyouliketoseeinyourinstitution'sEdutechinitiatives ?

(a) Morecomprehensivetrainingforstaff

(b) IntegrationofadvancedtechnologieslikeAIandVR

(c) Bettertechnicalsupportforusers

(d) Expansionofonlinecourseofferings

(e) Other(pleasespecify):…….

SECTION – B

Instructions :

- Thisstudyisforresearchpurposeonly.
- Pleasereply in minimum words with complete sense.
- Thequestionnaireshouldtakeyouonlyafewminutes.
- The results will be treated in strict confidence.

1. What is your role within the educational institution ?

   ……

2. Are you familiar with the Edutech initiatives implemented in your institution ?

   ……

3. How long has your institution been using Edutechsolutions ?

   ……

4. In your opinion, how have Edutech initiatives affected the efficiency of administrative tasks with in the institution ?

   ……

5. Have Edutech tools improved communication and collaboration among staff members? Please provide examples.

   ……

6. How has student engagement changed since the introduction of Edutechsolutions ?

   ……

7. What challenges if any have you encountered in integrating Edutech tools into daily operations ?

   ……

8. Are there any specific Edutech platforms of tools that have significantly improved operational processes ?

   ……

9. Have you observed any changes in the overall student learning experience due to Edutechinitiatives ? Please elaborate.

   ……

10. How do you perceive the long-term sustainability of these Edutech initiatives in terms of both financial and educational benefits ?

    ……

11. What measurable outcomes (e.g. academic performance, attendance rates, efficiency) have you observed as a result of these initiatives ?

    ……

12. Are there any training or support programs in place to help educators effectively integrate Edutech tools into their teaching methods ?

    …….

Thank you for participating in this questionnaire! Your input is valuable for understanding the impact of Edutech initiatives on educational institution's operational performance.

QUESTIONNAIRE
(For Students& PARENTS)

Date : _____

Dear Sir / Madam,

I am working on a Research thesis titled "***Analysing the Impact of Edutech initiatives on educational institutions in relation to operational performance.***" from **JayotiVidyapeeth Women's University, Jaipur**.

I will be grateful to you, if you can spare your valuable time and indicate your responses.

My thesis for the Doctoral degree will be based on the valuable information provided by you.

Your co-operation in this regards is solicited.

The information that you will provide me, be used purely for academic research purpose and will be kept confidential.

If you desire, I will provide a copy of your response, for your reference.

Thanking you in anticipation.

PersonalProfile

1. Name : MR/MRS/MISS._____

2. Address : _____

_____

_____

3. Age : _____

4. Gender : _____ (**Male / Female**)

5. Educational Qualification : _____ (**Under Graduate/ Graduate/ Post Graduate**)

6. Occupation : _____ (**Employed / Self-Employed**)

7. Email id : _____

8. How do you related to Education : _____

SECTION – A

Instructions :

- Thisstudyisforresearchpurposeonly.
- Pleasereplybyputtingatick(✓)intheboxcorrespondingtoyouranswer.
- Thequestionnaireshouldtakeyouonlyafewminutes.
- The results will be treated in strict confidence.

1. Howfamiliarareyouwiththeterm“Edutech”?
   (a) Veryfamiliar
   (b) Somewhatfamiliar
   (c) Notfamiliaratall
2. HaveyoupersonalexperiencedorusedanyEdutechtoolsorplatformsinyoureducation?
   (a) Yes,frequently
   (b) Yes,occasionally
   (c) No,never
3. Inyouropinion,howhaveEdutechinitiativesinfluencedtheoverallllearningexperienceineducationalinstitutions?
   (a) Significantlyimproved
   (b) Somewhatimproved
   (c) Nonoticeablechange
   (d) Declined
4. WhichofthefollowingaspectsofoperationalperformancedoyouthinkEdutechinitiativescanimpact?(Selectallthatapply)
   (a) Classroomefficiency
   (b) Studentengagement
   (c) Teacher-studentinteraction
   (d) Assessmentmethods
   (e) Administrativetasks
   (f) Resourceutilization
5. HowdoyouperceivetheeaseofintegratingEdutechtoolsintotheexistingeducationalframework?

(a) Veryeasy

(b) Moderatelyeasy

(c) Somewhatchallenging

(d) Verychallenging

6. Fromyourobservations,havetherebeenanydrawbacksorchallengesassociatedwiththeimplementationofEdutechinitiativesineducationalinstitutions?

(a) Yes,manydrawbacks

(b) Somedrawbacks

(c) Negligibledrawbacks

(d) Nodrawbacksatall

7. Intermsofaccessibility,howdoyouthinkEdutechinitiativeshaveimpactedstudentsfromdiversebackgrounds?

(a) Improvedaccessibility

(b) Nosignificantchangeinaccessibility

(c) Decreasedaccessibility

8. Whatroledoyouthinkeducatorsplayinmaximizingthebenefitsof Edutechinitiativesforoperationalperformance?

(a) Essentialroleinimplementationandguidance

(b) Minimalrole,primarilytechnicalimplementation

(c) Norole

9. HowwilldoyouthinkeducationalinstitutionshaveadaptedtheirinfrastructuretoaccommodateEdutechinitiatives?

(a) Verywell

(b) Moderatelywell

(c) Partially

(d) Poorly

10. Inyourview,whatcouldbepotentialfuturedevelopmentsorchallengesforEdutechinimprovingoperationalperformancewithineducationalinstitutions?

……

SECTION – B

Instructions :

- Thisstudyisforresearchpurposeonly.
- Pleasereply in minimum words with complete sense.
- Thequestionnaireshouldtakeyouonlyafewminutes.
- The results will be treated in strict confidence.

1. What is your role within the educational institution ?

   ……

2. Are you familiar with the Edutech initiatives implemented in your institution ?

   ……

3. How long has your institution been using Edutechsolutions ?

   ……

4. In your opinion, how have Edutech initiatives affected the efficiency of administrative tasks with in the institution ?

   ……

5. Have Edutech tools improved communication and collaboration among staff members? Please provide examples.

   ……

6. How has student engagement changed since the introduction of Edutechsolutions ?

   ……

7. What challenges if any have you encountered in integrating Edutech tools into daily operations ?

   ……

8. Are there any specific Edutech platforms of tools that have significantly improved operational processes ?

   ……

9. Have you observed any changes in the overall student learning experience due to Edutechinitiatives ? Please elaborate.

……

10. How do you perceive the long-term sustainability of these Edutech initiatives in terms of both financial and educational benefits ?

    ……

11. What measurable outcomes (e.g. academic performance, attendance rates, efficiency) have you observed as a result of these initiatives ?

    ……

12. Are there any training or support programs in place to help educators effectively integrate Edutech tools into their teaching methods ?

    ……..

Thank you for participating in this questionnaire! Your input is valuable for understanding the impact of Edutech initiatives on educational institution's operational performance.

RESEARCHHYPOTHESIS

StatementofHypothesis:

Hypothesis1: Impact of Edutech initiatives on student learning outcomes.

- **H_0:**TheseisnosignificantimpactofEdutech initiatives on student learning outcomes.
- **H_1:**ThereisasignificantimpactofEdutech initiatives on student learning outcomes.

Hypothesis2: Opinionsoftheparticipantsfortheneedofchangesineducationsystem.

- **H_0:**Notwishingtochangetheexistingsystemofeducation.
- **H_1:**Implementchangesintheeducationsystem.

Hypothesis3: Edutech tools improved communication and collaboration among staff members.

- **H_0:**Notimproved communication and collaboration among staff members.
- **H_1:**Improved communication and collaboration among staff members.

Hypothesis4: Edutech initiatives influenced the overall learning experience in educational institutions.

- **H_0:**Not Significantly improved.
- **H_1:**Significantly improved.

Hypothesis5 : Edutech initiatives impacted on the operational performance of the educational institutions.

- **H_0:** Not Significantly impacted the operational performance of the educational institutions..
- **H_1:** Significantly impacted the operational performance of the educational institutions.

REFERENCE/BIBLIOGRAPHY

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